

IN THE CLAIMS:

- 1 1. (Currently Amended) A method of performing an audio conference of multiple
2 attendees, including the steps of
- 3 (A) receiving input samples of PCM information from each attendee in the
4 conference;
- 5 (B) calculating the energy of each sample for each attendee of the conference;
- 6 (C) selecting a predetermined number of samples that exhibit the highest en-
7 ergy;
- 8 (D) generating a histogram to determine one or more noise peaks;
- 9 (E) selecting one of said noise peaks as a noise floor;
- 10 (F) ~~muting~~ eliminating from the conference incoming samples that ~~exceed~~ fall
11 below said noise floor; and
- 12 (G) ~~summing a predetermined number of non-muted samples whose energies~~
13 ~~are the largest to produce a conference output signal~~ selecting for inclusion in said confer-
14 ence a predetermined number of the remaining samples whose energies are the largest,
15 and summing a predetermined number of the remaining samples whose energies are the
16 largest to produce an output signal.
- 1 2. (Original) A method of performing an audio conference of multiple attendees,
2 including the steps of
- 3 (A) receiving the input samples of PCM information from each attendee in the
4 conference;
- 5 (B) calculating the energy of each sample for each attendee of the conference;
- 6 (C) suppressing any echo out of said conference output signal by aggregating
7 the energies calculated from each sample during the predetermined time period; and
- 8 (1) populating a matrix with the energy aggregates that are calculated;
- 9 (2) solving normal equations for said matrix to produce results;
- 10 (3) evaluating said results ;

- 11 (3) applying a moving average to said results across the time dimen-
12 sion;
13 (4) selecting peaks and a predetermined time lag that represent echo in
14 said energies;
15 (5) evaluating incoming speech samples and finding those having an
16 energy value is less than the predetermined peak energy at that predeter-
17 mined time lag;
18 (6) masking any such samples whose energies are less than or equal to
19 the predetermined peak, thus suppressing the echo in said sample;
20 (D) selecting a predetermined number of samples that exhibit the highest en-
21 ergy;
22 (E) summing these energies to produce a conference output signal; and
23 (F) for each attendee of the conference, subtracting any speech attributable to
24 that attendee from his own returned conference output signal.

- 1 3. (Original) A method of performing an audio conference of multiple attendees,
2 including the steps of:
3 (A) receiving input samples of PCM information from each attendee in a con-
4 ference;
5 (B) for each attendee of the conference, detecting dual tone multi-frequency
6 tones employing a detector to identify a row tone and a column tone;
7 (C) adjusting a filter to apply a coefficient that multiplies the signal by a pre-
8 determined amount in order to remove each row tone and each column tone to thereby
9 remove the DTMF from the signal; and
10 (D) sending the signal with the DTMF having been removed to a conferencing
11 process to be summed with other attendee signals.

1 4. (New) The method as defined in claim 1 comprising the further step of calculat-
2 ing the energy of the sample using the sum of the squares of the signal over a predeter-
3 mined time period.

1 5. (New) The method as defined in claim 1 wherein generating said histogram in-
2 cludes the further step of plotting a total energy level for a predetermined time block to
3 determine said noise peaks.

1 6. (New) The method as defined in claim 5 comprising the further steps of:
2 evaluating peaks including ignoring lowest peaks that are close to zero; and
3 evaluating secondary peaks to find the most occurring energy representation and setting
4 this as said noise floor.

1 7. (New) The method as defined in claim 6 comprising the further step of applying
2 a logical relationship to said histogram when there are multiple peaks to determine the
3 best noise floor including using a relationship between a ratio of the average histogram
4 value to that of a second peak and determining if said ratio exceeds a predetermined
5 amount, then the sample is determined to be speech and is above the predetermined noise
6 floor.

1 8. (New) The method as defined in claim 2 further comprising in said suppressing
2 step:
3 generating a synthetic echo envelope using calculated energies of samples; and
4 using said synthetic echo envelope to determine a delay and gain for an echo sig-
5 nal to be used in echo suppression.